



2011  
YOUTH GARDENING  
RESOURCE BINDER

*...Bringing the Next Generation of Organic Gardeners  
into your local P-Patch...*



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<http://www.seattle.gov/neighborhoods/ppatch/youth.htm>

## **P-Patch Youth: Program Area Vision**



P-Patch Community Gardens actively offer opportunities for youth to discover food, nature, gardening, and community building. It is our hope that Dept. of Neighborhoods P Patch Community Gardens are used as a tool to promote safe gardening practices and healthy lifestyle choices to future generations.

We encourage youth to be involved in the community garden through assisting in the garden giving plot, renting a plot with a school group or after school program, utilizing the space for service projects, or simply taking a visit to one of the gardens.

Partnering with local gardening experts, P-Patch acts as an agent in distributing community gardening knowledge to youth of diverse economic, racial, and ethnic backgrounds.

Our youth gardening opportunities strive to incorporate youth into the fabric of the community and foster the growth of active and involved citizens.

## P-Patch Youth and Family Gardens

There are several ways youth are already involved in the P-Patch sites. Some youth groups have their own plot which they are dedicated to year round; others work in the common areas of the garden, or assist in the giving garden. These programs prosper thanks to the excellent leadership of Teachers, After School Programs, Community Members, AmeriCorps Members, and Garden Educators!

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| <b>DEDICATED YOUTH PLOTS:</b>  |
| <b>Brander</b><br>Dedicated Children's Garden area, run by garden volunteers.<br><a href="http://bradnerblog.wordpress.com/">http://bradnerblog.wordpress.com/</a>   |
| <b>Burke Gilman</b><br>Children's Center @ Burke Gilman, toddlers- preschool program gardening a plot.<br><a href="http://www.tccbogg.com/">http://www.tccbogg.com/</a>  |
| <b>Cascade</b><br>Plot dedicated to the Kids or parents receiving cancer treatment at the Hutch Research Center.   |
| <b>Lincoln Park</b><br>Fauntleroy Children's Center, garden a dedicated youth plot.<br><a href="http://fauntleroychildrenscenter.org/index.cfm">http://fauntleroychildrenscenter.org/index.cfm</a>   |
| <b>Magnuson</b><br>Magnuson Community Center nature education programs incorporate gardening into camps and classes for children age 4-9 from spring to fall, using a double p-patch plot.<br><a href="http://jrnatureexplorers.blogspot.com">http://jrnatureexplorers.blogspot.com</a>  |
| <b>U Heights</b> <ul style="list-style-type: none"><li>a. CO-OP Children's Center<br/><a href="http://coopchild.org/">http://coopchild.org/</a></li><li>b. University Baptist Children's Center parent volunteers are planning to grow all their snacks in their dedicated youth plot. <a href="http://www.ubccenter.org/">http://www.ubccenter.org/</a></li></ul> |



**AFTER SCHOOL PROGRAMS:****Maple Leaf**

Northgate Community Center Teen Life Program has two plots. One plot is dedicated youth plot, and the other the youth help grow vegetables for local food bank.

<http://www.seattle.gov/parks/teens/>

**Marra Farms**

School Age Care group from South Park Community Center

<http://www.seattle.gov/parks/Centers/southpark.htm>

**New Holly Youth & Family**

- a. Garden Classes taught at Vietnamese Friendship Association, once a week on Tuesdays from 3:45-5:30 with AmeriCorps Volunteer. Garden Explorers Club Age 6-14yrs.

- b. Van Asselt Teen Life Center running a youth plot.

<https://www.seattle.gov/parks/Centers/vanasseltcc.htm>

**Snoqualmie/ Rainier Vista**

Children's garden plot run by REWA, a nearby after school outreach program.

<http://www.rewa.org/index.php?q=node/4>

**SCHOOL PROGRAMS:****Delridge**

Denny International Middle School uses the P Patch for school children as well as Latino summer camp.

<http://www.seattleschools.org/schools/denny/international.html>

**Hillman City**

Orca School has two plots that they garden in conjunction with school garden/ greenhouse facility. <https://orcagarden.wordpress.com/>

**Immaculate**

Science teacher at Lake Washington Girls School assisting in working the raised bed. Parent volunteers maintain the plot during the summer months.

<http://www.lwgms.org/>

**Mad-P**

- a. French teacher from the Bush School is using plot to run an urban agriculture program

- for middle school youth.
- b. Harvard Ave Preschool  
<http://harvardavenueschool.com/>

**Thistle**

Year round successful gardening with leadership from Headstart program.

**CHILDCARE PROGRAMS:**

**Greenwood**

Donvinh's Childcare Center assists plot holder in garden.

<http://www.providerappreciationday.org/honorees/Dovinh.php>

**Magnuson**

Children's Hospital Child Care Center at 70th and Sand Point has a double plot that teachers bring 20-25 preschoolers to garden in year-round. They also hire a garden educator to do a series of spring and fall classes for kids.

**Picardo**

- a. A Mother started a free nature preschool for her sons and a group of their little friends last year. They meet weekly at an outdoor location (Picardo P Patch, Washington Park Arboretum, Discovery Park, to conduct lessons and activities about nature-related topics. Children also help with stewarding family's P Patch plot.
- b. 81st Street Teids Family Childcare

**ANNUAL YOUTH INVOLVEMENT:**

**Ballard**

Assist once a year on the Bishop Blanchet freshman retreat held the first week of Feb. Groups of 20+ students/per site.

**Magnuson**

Saturday morning "Family Gardening Days" and summer evening events put on by the Children's Garden Committee that include family activities in the p-patch, plus regular visits throughout the year by 4-H, scouts, and other youth groups to harvest food for the local food bank and more. <http://magnusonchildrensgarden.blogspot.com>

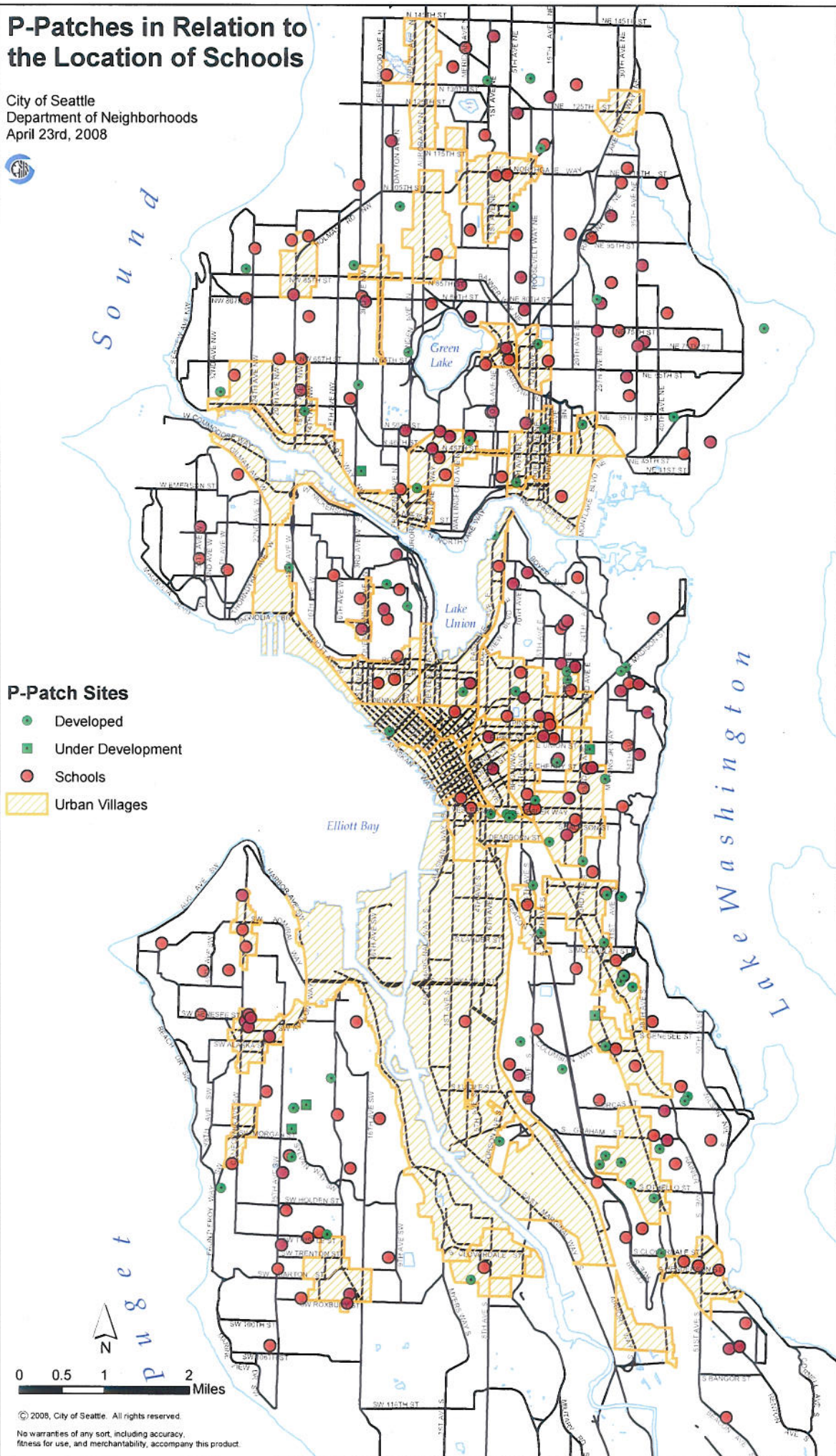
**Picardo**

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# P-Patches in Relation to the Location of Schools

City of Seattle  
Department of Neighborhoods  
April 23rd, 2008







## **P-Patch Gardens for Children: Creating Success & Sustainability from the Start**

© 2010 by Emily Bishton

**Why to Start:** Almost every lifelong gardener, park ranger, and nature lover have this in common: there was a caring adult present in their lives who helped spark and nurture their curiosity about the natural world. Spending quality time in a p-patch garden with children is one way that you can help to do that too!

**How to Start:** It's important to remember that *the way of all living things to start small and grow larger*. Even a small plot can hold a lot of plants! And rather than try to fit all your activities into just your own plot, try to utilize all the features that are already present in and around your p-patch. *Start by walking around and taking stock of these resources:*

- Deciduous trees and shrubs show the seasonal cycles of plant growth, and give children the opportunity to observe them from dormancy to bud, to leaf and flower, to fruit and seed. Fruit trees and berry bushes are especially interesting to children.
- Trees and shrubs also provide bird habitat, and provide a wonderful place to install nest boxes so children can witness the magic of parent and baby bird interactions. "Wild areas" on the margins of your p-patch are especially attractive to songbirds.
- Perennial borders and herb gardens attract a variety of beneficial insects within easy viewing height for children. This is a great way to help children to lose their fear of insects, and gain respect and understanding of their importance in the world.
- The 'Giving Gardens' and/or common areas in your p-patch site provide a great opportunity for children to help care for something that will benefit others, strengthen bonds with their fellow p-patchers, and gain a sense of empowerment.

**How to Grow:** Think of your children's program as a tree. A sustained and steady amount of nourishment from multiple sources is what a tree needs over the long term in order to stay healthy and strong. The end of annual growth is the beginning of a tree's decline. This may sound like a strange concept, but *make sure that from the start, your plans include never being "finished" with creating and re-creating the garden and your activities there.*

### **Designing for Success and Sustainability:**

1. *Make sure you welcome input from children on each step of the process:* in designing the garden, changes to it over time, and on which plants you grow each year.

When children participate in the ideas, planning, & decision-making, they bond more with the garden and learn more from their experiences in it. The more "ownership" they develop, the more sustainable your p-patch plot will be. *Your main design role is to listen, and to guide only when necessary.* Sometimes ingenious ideas come out "of the blue" to kids, and may seem outlandish at first to you. But take time to consider them seriously- they are probably tremendous ideas that just need a little steering to be do-able.

2. *Basic design features that belong in or near all children's garden plots:*

- Plenty of room on the garden paths for children to pass each other comfortably without stepping on each other, or on the plants. *No paths should have a dead end.*
- Soft path surfaces, such as wood chips, pine needles, or straw.
- A major visual and physical difference between the path surfaces and the garden soil, that acts as a reminder for where to walk. IE: River rock or used brick border, etc.
- Beds arranged so that children can do activities while observing adult leader(s).
- An arbor, scarecrow, or another creative and fun way to mark all plot entries.
- A restroom within a short walk.

3. *Features that open up even more possibilities if they are in or near the plot:*

- Activity locations in both sun and shade, so you can alternate as needed.
- A common area where a whole group can sit. If possible, with a covered area and picnic table for "plants parts parties", journaling, or nature crafts.
- A worm bin and/or compost bin.
- "Found objects" to use as imaginative garden decorations.
- PVC pipes and Remy for extended-season cloche gardening.
- A bulletin board or kiosk for displaying garden art, "what's blooming" notices, etc.

Tools can be simple:

- A 5-gallon 'bucket buddy' full of hand trowels, cultivators, gloves, and an old towel.
- Plenty of small watering cans, plastic magnifying lenses, and a cloth measuring tape.

Planting Tips:

- It's easier for children to plant large seeds than tiny ones, but doing a pantomime of the "pinch and sprinkle" technique with them helps greatly when planting tiny ones.
- If adults also hold all seed packets and dispense the seeds into children's palms, there will be much less seed spillage and mass clusters of seedlings all in the path.
- Let the children be generous when sprinkling seeds of salad greens, carrots, and radishes, because thinning and tasting the seedlings is part of the fun and learning!
- Whenever planting starts or thinning seedlings, allow for plenty of time and encourage children to observe, explore, and compare the roots of the various plants.

Maintenance:

- Don't expect or strive for the garden to be a showpiece or a record-setter. It's a sign of success for the garden to look 'lived in', and the whole gardening experience is one of your main goals, which will include imperfect harvests and occasional failures.
- Try to keep a handle on weeds to keep them from taking over, but utilize weeding as part of the learning experience whenever possible. Hint; make it a game of skill, such as "who can dig the longest dandelion root", then share everyone's successes as a group. And be prepared to explain the *concept* of weeds, as kids are sometimes confused about why a plant they think is very pretty is being called a weed.
- Done in 10-15 min. chunks of time, most children will find it fun to do garden chores such as mulching beds, spreading wood chips in paths, digging spent plants, etc.

**Last but not least:**

There is a garden proverb that says, "More grows in the garden than is sown there". When a child feels at home in a garden, something wonderful is sprouting!



# Plants for Kids (<http://www.seattletilth.org/>)

## Perennials

| <u>Perennials</u> |                                   | <u>Flower</u>                   |                               |                |
|-------------------|-----------------------------------|---------------------------------|-------------------------------|----------------|
|                   | Roses                             |                                 | Squash                        | Mistletoe      |
| Agastache         | Rosemary                          | Arugula                         | Tomatillos                    | Morning Glory  |
| Artichoke         | Silver Shield Sorrel              | Bachelor's Buttons              | Tomatoes                      | Nightshade     |
| Berries           | Sweet Cicely                      | Bean blossoms                   | <u>Others we like</u>         | Periwinkle     |
| Cardoon           | Thyme                             | Black-eyed Susan                | Buckwheat                     | Poison hemlock |
| Chamomile         | Tulips                            |                                 | Burdock                       | Rhododendron   |
| Chives            | <u>Annual Veggies and Flowers</u> | Borage                          | Cleavers                      | Spurge         |
| Clove Currant     | <u>Leaf</u>                       | Brassica flowers                | Mullen                        | Sweet pea      |
| Comfrey           |                                   | Calendula                       | Phacelia                      | Wisteria       |
| Culinary Sage     | Basil                             | Clover                          | Rye, oats, barley, wheat      |                |
| Dianthus          | Broccoli                          | Cutting flowers for bouquets    | <u>A Few Poisonous Plants</u> |                |
| Fennel            | Cauliflower                       | Daisies                         | Aconite                       |                |
| Fruit Trees       | Chard                             | Nasturtiums                     | Anemone                       |                |
| Honeysuckle       | Cilantro / Coriander              | Red Dead Nettle                 | Azalea                        |                |
| Hyssop            | Collards                          | Viola, Pansies, Johnny Jump Ups | Buttercup                     |                |
| Jerusalem Sage    | Garlic                            | Zinnia                          | Calla Lily                    |                |
| Kiwi              | Leeks                             |                                 | Clematis                      |                |
| Lamb's ear        | Lettuce                           | <u>Fruit</u>                    | Daffodil                      |                |
| Lavender          | Onion                             | Beans -- snap                   | Delphinium                    |                |
| Lemon Balm        | Spinach                           | Beans -- runner                 | Four o'clock                  |                |
| Lemon Verbena     | Stevia                            | Cucumbers -- lemon              | Foxglove                      |                |
| Mint              | <u>Root</u>                       |                                 | Hyacinth                      |                |
| Monarda           | Carrots                           | Peas                            | Hydrangea                     |                |
| Oregano           | Beets                             | Peppers                         | Iris                          |                |
| Pineapple Sage    | Potatoes                          | Pumpkins                        | Ivy                           |                |
|                   | Radishes                          |                                 |                               |                |

# PLANTING CALENDAR



|                         | JANUARY | FEBRUARY | MARCH        | APRIL              | MAY          | JUNE    | JULY         | AUGUST  | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER |
|-------------------------|---------|----------|--------------|--------------------|--------------|---------|--------------|---------|-----------|---------|----------|----------|
| ASPARAGUS               |         | seed     | transplant   | harvest (2nd year) |              |         |              |         |           |         |          |          |
| BASIL                   |         |          |              | seed               | plant starts | seed    | plant starts | harvest |           |         |          |          |
| BROCCOLI                |         |          | plant starts |                    |              | seed    | plant starts | harvest |           |         |          |          |
| BEANS (GREEN)           |         |          |              |                    | seed         | harvest |              |         | seed      | harvest |          |          |
| BEETS                   |         | harvest  |              | seed               | plant starts | harvest |              |         | seed      | harvest |          |          |
| BRUSSELS SPROUTS        |         | harvest  |              | seed               | plant starts | harvest |              |         | seed      | harvest |          |          |
| CABBAGE                 |         |          | seed         | plant starts       | harvest      |         |              |         | seed      | harvest |          |          |
| CARROTS                 |         | harvest  |              | seed               | plant starts | harvest |              |         | seed      | harvest |          |          |
| CAULIFLOWER             |         |          | seed         | plant starts       | harvest      |         |              |         | seed      | harvest |          |          |
| COLLARDS                |         |          | seed         | plant starts       | harvest      |         |              |         | seed      | harvest |          |          |
| CORN                    |         |          | seed         | plant starts       | harvest      |         |              |         | seed      | harvest |          |          |
| CUCUMBER                |         |          | seed         | plant starts       | harvest      |         |              |         | seed      | harvest |          |          |
| EGGPLANT                |         |          | plant starts |                    |              |         |              |         | seed      | harvest |          |          |
| FAVA BEANS              |         | seed     |              |                    |              |         |              |         | seed      | harvest |          |          |
| GARLIC                  |         |          |              |                    |              |         |              |         | seed      | harvest |          |          |
| KALE                    |         | harvest  |              |                    |              |         |              |         | seed      | harvest |          |          |
| LEeks (WINTER)          |         | harvest  |              |                    |              |         |              |         | seed      | harvest |          |          |
| LETTUCE (OAK, RED-SAIL) |         |          | seed         | harvest            |              |         |              |         | seed      | harvest |          |          |
| LETTUCE (SIMPSON)       |         |          |              |                    |              |         |              |         | seed      | harvest |          |          |
| ONION SETS              |         |          | plant sets   |                    |              |         |              |         | seed      | harvest |          |          |
| PARSNIP                 |         | harvest  |              |                    |              |         |              |         | seed      | harvest |          |          |
| PEAS (SNAP)             |         | seed     |              |                    |              |         |              |         | seed      | harvest |          |          |
| PEPPERS                 |         |          | plant starts |                    |              |         |              |         | seed      | harvest |          |          |
| POTATOES                |         |          | plant tubers |                    |              |         |              |         | seed      | harvest |          |          |
| PUMPKIN                 |         |          | seed         | plant starts       |              |         |              |         | seed      | harvest |          |          |
| RADISH                  |         | seed     |              |                    |              |         |              |         | seed      | harvest |          |          |
| SPINACH                 |         | seed     |              |                    |              |         |              |         | seed      | harvest |          |          |
| SQUASH (SUMMER)         |         |          | seed         | plant starts       |              |         |              |         | seed      | harvest |          |          |
| SQUASH (WINTER)         |         |          | seed         | plant starts       |              |         |              |         | seed      | harvest |          |          |
| SWISS CHARD             |         | harvest  |              |                    |              |         |              |         | seed      | harvest |          |          |
| TOMATOES                |         |          | seed         | plant starts       |              |         |              |         | seed      | harvest |          |          |
| TURNIPS                 |         |          | seed         | plant starts       |              |         |              |         | seed      | harvest |          |          |
| ZUCCHINI                |         | seed     | plant starts |                    |              |         |              |         | seed      | harvest |          |          |

Using this Calendar

seed means first seed outside into the garden, except where noted

plant starts means plant into the garden, either started inside/under cloche from seed or purchased starts

harvest means first harvest time, varying depending on time of planting and other variables

For details on growing in cold frames, in cold frames, or in cold frames, see the website at [www.ppatchtrust.org](http://www.ppatchtrust.org)

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# **What can you do with Youth in the Garden?**

## ***Quick Lesson Plans Utilizing the Garden***

### **Terrariums**

During colder months students can build mini greenhouse for indoors. Using two clear plastic cups, sand, charcoal and potting soil. Talk with students about what they think a plant would need to grow in the winter. Students will only have to water these plants once because the water will cycle through the water cycle-explain. Sand and charcoal help with water filtration. Have students share where they will be keeping there plant safe-preferably where they can get as much light as possible. *GR K-6*

### **Dirt Challenge**

To have students get over there sometimes fear of dirt, play in the mud! Make mud either in a bucket or contained area. Have students place there feet or hands in the mud. It can get a little messy but students get a kick out of dirt! Be sure to have a hose or cleaning bucket and towels for students to clean up. You can have students write a journal or poem around what it felt like. They can have their names, or pictures, placed on a "Dirt Challenge" poster board. *GR K-3*

### **Garden Journals**

Have students make their own garden journals for the season. They can document their gardening experience through pictures poem and writing. Using cardstock or cardboard for outside covers, colored construction paper, hole punch and heavy duty string. The journal can be used to document a seed planted, adopted plant, or entire garden layout. Students can keep track of growth height, watering schedule, and harvest date. *ALL AGES*

### **Garden Scavenger Hunt**

Compile a list of items students need to find in the garden, you can associate points to each item or simply have them check off if they find the item. Equip students with rulers, bags, magnifying glasses, bug catchers etc. Examples could be: Stem 8" long, weed root, smooth stone 3" wide, flower with six petals, etc. Have students circle up at the end of allotted time and share what they found, could not find, and why they think they could not find certain items. *GR 1-5*

### **Lady Bug Stones, Lady Bug Search**

Discuss why lady bugs are good for the garden and how they help. Go on a lady bug search around the outlying areas of the garden, carefully catching any ladybugs and bringing them back to the garden. Older students can do a survey of the amount of ladybugs they find in a garden compared with outside the garden. Discuss outcomes. Smaller students can search for smooth stones at least four inches around and can paint these stones like a ladybug. They can be used to decorate the garden or paperweights. *GR K-4*

### **Labeling Signs**

During colder months one can do some garden planning. Ask students what they would like to plant in their garden this spring. Suggest themes, salad garden, taco garden, pizza garden, or fairy garden. Make a list of veggies students would like to plant in the garden. Distribute cardstock and have students volunteer to make labeling sign to be placed in the garden. Students can use paint, colored pencils, crayon, and markers. Encourage students to make signs colorful and legible. They can be collected and laminated for future use! *ALL AGES*

### **Building a Trellis**

Peas after Presidents Day, and beans when it gets a little warmer! Both can be trellised for maximum use of garden space and production. Older students can design a trellis, looking at different styles (metal, wood, bamboo, plastic, tepee or ladder). Discuss pro's and con's to each option and decide on best options. Offer pictures as examples *GR 6-HS*

### **Weed Tally**

Ask students what they think a weed is. Discuss with students that a weed is a plant that is simply in the wrong place. Why don't we want weeds in the garden? Give each student a section of the garden and tell them to collect as many "weeds" and keep count. They then can log the number of weeds on a poster board with their name, date, and number of weeds they collected. *GR K-3*

### **Plant/Weed competition**

After discussing what plants need to survive (sunlight, water, and soil). Have several 4" cards with each plant need. Divide the class into two groups "weeds" and "plants". Round one: plants are in even rows, where they can not move. Place plant needs on the ground, students have five seconds to pick up as many cards as possible, staying in one place. Record how many each student collects. Round two: plants are still in even rows but weeds are added (weeds do not have to be in rows they can go where ever they want) students are again given 5 seconds. Record the data and compare results. Similar game can be played (older students) with plant nutrients: Nitrogen, Potassium, and Phosphorus. *GR 1-5*

### **Bird Survey**

Why are birds important for the garden? Why are they a nuisance to freshly planted gardens? Students will be conducting a bird survey of the garden and surrounding area. Partner up students with a clip board, pencils and paper. Students make a tally mark for every bird they see and a circle for every bird nest. Explain that birds may get frightened of noises so students should be quite, set boundaries for the survey, suggest students take different locations to make sure they don't count the same birds twice. *GR 1-5*

### **Bird Treats**

Winter is a hard time for birds. Although most migrate to warmer places some stick around. Have students collect pinecones so make bird treats for those that stayed around. Students tie a long, durable string around the pinecone, using lard (or peanut butter if no student is allergic) cover the pinecone with a thin layer of this sticky substance, roll cones in birdseed and hang from tree. To transport sticky treats home, wrap in tin foil or recycled newspaper. *GR K-3*

### **Bugged Out**

Discuss/Ask why we need bugs in our garden! Several educational books, ranging in age appropriateness, "The Icky Bug Alphabet Book" "Hide and Seek Science, Where's that Spider" Students can pick there favorite insect and draw a chalk picture of the insect and explain why they are important. Students can go on a bug search! Explain that bugs are living creatures and we must respect and return them to nature. *GR K-3*

### **Compost Worms**

What is compost and why is it important to the garden. Borrow a working compost worm bin from Seattle Tilth and have students get up close with red wiggler worms. Explain difference between red wigglers and night crawler worms. Have students measure and name worms, draw a picture and label the different parts of a worm (head, anus, segments, and clitellum) Guess how much a worm eats each day, and how much we would have to eat if we were worms? Students can have an apple snack and add the core to the worm bin! *ALL AGES*

### **What a Seed Needs to Grow Experiment**

Using what a seed needs to grow as a variables- water, sunlight, air and soil, have three cups, with one of each of these variable taken away: one container that will not be watered, one that will be kept in the dark, one in a zip lock bag, and one where the seed is planted in a sponge. Wheat Grass seeds work well because of the fast germination times, within a week. Discuss the outcomes and why some seeds may have grown even if they didn't have all variables (desert plants, hydroponics, shade loving plants). *GR 3-6*



### **Map the distance food travels**

Have three bags, with three pieces of produce in them. Each bag will contain a scenario on how that piece of produce arrived in the class room, one bag will contain a vegetable from the local garden. Have students use string and push pins on a world map to trace how far the food traveled. Discuss the problems with food traveling so far, why it is hard to eat local year round, and solutions. Older students can calculate carbon footprints of food. Example of Scenario: Banana from Ecuador-collected on a farm, trucked to Quito, shipped to L.A. by boat, trucked to WA, driven home from grocery store. *GR 3-HS*

### **Where's that Veggie from?**

Have students pick out their favorite vegetable or fruit. Then ask them where they originated from, what type of weather is ideal to grow them in, would they grow in WA? Discuss where students could find this information (Library, Internet, Gardeners). Have samples of produce (or pictures) from the garden and have students match where this produce originates from. *GR 4-HS*

### **Green Smoothies**

Here is an awesome recipe to get kids to eat the last of that fresh spinach from your garden! They might be a little leery of the green color, but after they taste it, they will be screaming "add more spinach!"

1 banana

2 cups orange juice

2 cups freshly picked spinach

1 ½ cups frozen fruit (Strawberries, Mangos, or Pineapples)

Spinach is a great source of dietary fiber. It is known to be an excellent source of iron, calcium, and vitamins A and C. *ALL AGES.*

### **Garden Chores**

Students should help with the maintenance of the garden through the year. This will create a sense of ownership in the garden. From watering with canisters, mulching, weeding, turning compost bins, planting seeds, transplanting starts, gathering sticks, to drawing the garden map, constructing stepping stones, and posting garden rules. Explain how to do each task, along with the importance. Ask to students to imagine what would happen if no one ever did a particular task. *ALL AGES*

### **Plant Part Cooking Stir-Fry/Potstickers/Garden Salad**

Have students choose what they would like to prepare using the six different plant parts (leaf, stems, flowers, fruit, roots, seed). Discuss the function of each plant part. Students can divide into groups and make their own recipes. Example Plant Part Potstickers-

#### **INGREDIENTS**

1/2 head Napa Cabbage, cleaned and cored

1/2 cup carrots, peeled and diced

3 Tbs shallot, onion, or green onion, minced

1 Tbs garlic, minced

1 Tbs ginger, minced

1/2 small can water chestnuts, drained

10-20 wonton wrappers

2 Tbs water, reserved

1 Tbs vegetable oil

#### **PREPARATION**

1. Cut cabbage into 1" pieces.

2. Add remaining prepped vegetables.

3. Smear water on the edges of the wrapper. Fold and seal.

4. Drizzle oil into hot pan. Fill pan with potstickers, ensuring enough cooking room.

5. Sauté potsticker on each side.

6. Add water and cover pan to steam ingredients. Allow to steam 3 minutes.

## **“Soil Squeeze” and “Soil Shake”**

by Emily Bishton

[www.greenlightgardening.com](http://www.greenlightgardening.com)



Take a trip around your garden to take soil samples, learn what kind of soil you have, and see if it is ready for digging and planting!

### Soil Squeeze:

Have each child gently dig in the garden soil and get a small amount that will fit in the palm of their hand. Give the soil a firm squeeze, then open your hand. One of three things will happen:

1. It will fall apart as soon as you open your hand, because it is sandy and dry enough to plant!
2. It will hold its shape when squeezed, but when given a light poke, it will crumble. Lucky you—this means you have luxurious loam soil that is dry enough to be planted!
3. It will hold its shape when squeezed, but sticks together in a hard ball even when poked. This means you have clay soil, or loam soil that is still too wet to plant. Wait a few more days to try again, and you might also need to add some more compost!

### Soil Shake:

Materials needed- 2 or 3 clean, quart-size glass or clear plastic jars with tight-fitting lids.

1. Choose several different locations in the garden, as far apart as possible. Have the children dig down to the native soil in each area, and use it to fill each jar halfway to the top.
2. Have the children fill up the rest of the jar with plain tap water, screw the cap on tight, and take turns shaking it thoroughly. Have the last child quickly place the jar right side up on a flat surface to settle.
3. The sand will settle immediately before their eyes, because it's the heaviest and largest soil particle.
4. The silt layer will settle on top of the sand, and they'll be able to see the difference by observing the color and particle size of each layer.
5. The clay layer may take several hours or several days to completely settle on the very top. It is usually either a bluish or yellowish color. Any organic matter that is in the soil will float on or in the water.

## **“Root Research” and “Root Ropes”**

by Emily Bishton

[www.greenlightgardening.com](http://www.greenlightgardening.com)



Whenever you have weeding to do in your garden that is not too difficult for children to help with, make it a fun exploration activity and game!

Digging weeds is one of the few chances that children have to thoroughly pick apart and examine roots without harming the plant. Since one of your main weeding goals is to dig up the entire root so that the weed won't re-sprout, this "root research" also gives an incentive to children to take the time to do a nice deep digging. Here are some tips:

- Space the children as wide apart as possible, as it's hard to keep dirt from flying around when children knock the dirt off of the weed roots.
- If you have big clumps of grass, loosen them up in advance with a turning fork, which will make them easy for children to finish lifting with a hand trowel.
- If you have a Morning Glory invasion, give children the incentive to get as long a root section as they can with the "lift-and-follow" method, then create some activities with them:
  - Lay the long roots end to end to see how long of a "root rope" you can make.
  - Lay the long roots side by side down a nearby path, then twist them together and tie in a circle for a decorative "root rope" belt for a scarecrow, or other display.



## THE "HONEYBEE DANCE"

by Emily Bishton

[www.greenlightgardening.com](http://www.greenlightgardening.com)



A great activity for understanding one of the "secret" languages that other living things use to communicate with each other.

### HAVE FUN LEARNING AND PRACTICING!



**Round Dance**

When a food source is very close to the hive, a forager bee performs the round dance. She does so by flying around in narrow circles, suddenly reversing direction to her original course. She may repeat the dance several times at the same location or move to another location to repeat it. After the round dance has ended, she often distributes food to the bees following her. The round dance communicates distance but not direction.



**Waggle Dance**

When a food source is farther away from the hive, a forager bee performs the waggle dance. She flies straight ahead towards the food source, returns in a semicircle to the starting point, flies again through the straight course, then makes a semicircle in the opposite direction to complete a figure-eight. While flying the straight-line course of the dance, the bee wags its body vigorously from side to side and emits a buzzing sound that is produced by its wing-beats. The waggle dance communicates both distance and direction.

#### References:

Karl von Frisch, The Dance Language and Orientation of Bees

David R. Tarpy, NC State Univ., The Honeybee Dance Language

#### **Bee Dancing ideas for groups of 2 or more children:**

1. Explain and demonstrate each type of bee dance. Don't be afraid to be silly!
2. Have one child at a time choose to either the round dance or waggle dance to demonstrate, while the other children try to guess which dance it is. Then take turns until everyone has had a dance chance.
3. An advanced version is to have children try to guess which flower the "bee" is pointing to!

### **RESOURCES FOR FREE PLANTS AND GARDEN SUPPLIES**

- Spring plant sales by local non-profits abound, and there are usually many leftover plants that need a home at the end of the sale. Check the Miller Library online listing at <http://depts.washington.edu/hortlib/calendar/sales.php>, then contact the non-profit in advance to find out their policy.
- Master Gardener Plant Sale leftovers are available to all non-profit gardening groups who submit a written request *in advance* to the Master Gardener Foundation. [www.mgfkf.org](http://www.mgfkf.org)
- Do you know a Plant Amnesty member? They have a free online Adopt-a-Plant (u-dig) and Green Share List that all members can access. [www.plantamnesty.org](http://www.plantamnesty.org)
- Compost bins or worm bins are sometimes listed on [www.craigslist.com](http://www.craigslist.com) by people who decided not to use them after all, or who are moving. Sometimes they are in brand new condition!

### King County Master Gardener Learning Boxes

Each Learning Box is a "classroom in a box" that contains a multitude of supplies such as videos, hand lenses, Petri dishes, curricula, posters, storybooks, puppets, etc. Each kit also contains a detailed handbook with background information, diagrams, worksheets, teaching tips, and dozens of lesson plans for educating various ages of children and adults. A folding luggage cart is also provided with each kit, to make it easy to transport. The list below details the main concepts that each kit can be used to teach, and one of its special features.

|  |   |
|--|---|
| <u>Roots and Shoots Kit</u><br>Anatomy and Function of Roots, Stems, and Leaves, Uses by Humans, Basic Botany and ID. Includes Plant Parts Flannel Board.        | <u>Insects Kit</u><br>Beneficial and Pest Insects, Anatomy, Identification, Habitat, and Conservation. Includes Metamorphosis Model.                              |
| <u>Seeds and Flowers Kit</u><br>Anatomy and Function of Flowers, Fruits, and Seeds, Uses by Humans, Seed Saving, Basic Botany and ID. Includes Seed Sampler Box. | <u>Pollinators Kit</u><br>Bees, Bats, Hummingbirds, Benefits and Habitat Needs, Conservation and Preservation, Flower Anatomy and Pollination.                    |
| <u>Native Plant/Wildlife Habitat Kit</u><br>Benefits of Natives, ID of Natives and Noxious Weed, Backyard and Schoolyard Habitats. Includes Survivor Game.       | <u>Soil and Compost Kit</u><br>The Soil Food Web, Composition, Soil Building and Mulching, Decomposition, Composting Methods and Bins. Includes Soil Samples.     |
| <u>Trees Kit</u><br>Forest Layers and Habitat, Botany and ID, Role of Wildfire, Use by Animals and Humans. Includes large Tree Slice and "Ollie the Owl".        | <u>Worms Kit</u><br>Worms and other Decomposers, Benefits and Anatomy, Worm Bin Building and Maintenance. Includes Model Worm Bin.                                |
| <u>Observation Chamber</u><br>Removable panel reveals see-thru sides for plant growing, soil layer model, or temporary worm home. Can be used with another kit.  | <u>Mini Worm Bin</u><br>Approx. 3 cubic ft., removable panel reveals see-thru side for up close worm observation.<br>The only kit with an 8-week checkout period. |
| <u>Water Kit</u><br>The Water Cycle, Wetlands, Water Quality and Conservation, Habitat, and Critical Thinking Exercises. Includes Model Watershed.               | <u>Recycling Kit</u><br>Reduce, Reuse, and Recycle, Examples of Recycled Materials, and Craft Making. Includes Model Landfill.                                    |

If you are interested in checking a kit out contact:

[Elaine Anderson](#), Master Gardener Coordinator | 206-685-5104  
WSU King County Extension,  
Mailing Address: Box 354115, Seattle 98195-4225  
Street Address: 3501 NE 41st Street, Seattle, WA 98105 USA  
[elaine.anderson@wsu.edu](mailto:elaine.anderson@wsu.edu)



## **Local Seattle Youth Gardening Programs/Resources**

### **Seattle Tilth**

Seattle Tilth is a nationally recognized non-profit organization dedicated to cultivating a sustainable community, one garden at a time. They have several demonstration gardens, as well as in P-Patches and other community gardens across the region, where they teach people how to improve their environment by using organic gardening techniques. <http://www.seattletilth.org>

4649 Sunnyside Avenue N, Room 120 Seattle, WA 98103

Phone Number: 206-633-0451 Fax Number: 206-633-0450

### **Lettuce Link**

Coordinate with Seattle-area gardeners to donate fresh organic produce to their local food banks. Each year, hundreds of backyard gardeners and P-Patch volunteers from more than

30 community gardens collect and donate about nine tons of fresh, organic produce for people in need!

Produce is distributed to two dozen food banks, meals programs and shelters across Seattle.

<http://www.solid-ground.org>

1501 North 45th Street Seattle, WA 98103

Phone Number: 206.694.6754 Fax Number: 206.694.6777

Email: [lettucelink@solid-ground.org](mailto:lettucelink@solid-ground.org)

### **Seattle Youth Garden Works**

Seattle Youth Garden Works empowers homeless and under-served youth through garden-based education and employment. We are a market gardening program for youth ages 14-22 in the University District and

South Park neighborhoods. <http://www.sygw.org/>

5700 Sixth Ave S, Ste 207 Seattle, WA 98108

Phone Number: 206.632.0352 Fax Number: 206.632.0355

### **Magnuson Jr Explorers**

These reasonably priced classes and camps are for children ages 4-7, and sponsored by the Magnuson Park Community Center. We are so fortunate to have the Magnuson Children's Garden and P-Patch as the "headquarters" for our main outdoor learning and play, both of which are full of interesting plants and wildlife all year round. And both are close to the nearby trails, grasslands, and other features of this wonderful park that we use for our exploration hikes. <http://www.greenlightgardening.com/>

### **Master Gardeners**

WSU King County Extension provides many resources for home gardeners. In addition to the services of over 600 Master Gardener volunteers, Community Horticulture faculty and professional staff are available to provide expert advice. WSU Extension also provides extensive online gardening resources.

<http://mastergardener.wsu.edu/>

Phone Number: 206.205.3122

### **Clean Greens Farm and Market**

Based on 22 acres of leased land in Duvall, WA, this innovative project was begun by the Black Dollar Days Task Force, an organization dedicated to creating economic opportunity and equity in Seattle's low income communities. <http://www.cleangreensfarm.com/>

### **Marra Farms**

Marra Farm is a model urban community farm engaging people in sustainable agriculture and education while enhancing local food security. Tucked into the South Park neighborhood of Seattle, it has 4 acres of historic preserved farmland. <http://www.solid-ground.org/Programs/Nutrition/Marra/Pages/default.aspx>

1501 North 45th Street Seattle, WA 98103-6708

Phone Number: 206.694.6746 Fax Number: 206.694.6777

Email: [suem@solid-ground.org](mailto:suem@solid-ground.org)

## Local Youth Gardening Grant Opportunities

Before delving into the big world of grants and applications take a look around the local sector. There is plenty of resources right around your neighborhood, and often companies are more than willing to help in your endeavors. The first step would be to draft a letter of request. Be specific with what you need and where it will be used. It should also contain information about the program you are running. Submit this letter to local community companies. Try and make personal contact with the individuals so these companies can put a face with the request.

### Seattle Neighborhood Matching Fund- Three Opportunities:

<http://www.seattle.gov/neighborhoods/nmf/>

-Large projects Fund: is for projects which take up to 12months to complete and need more than \$15,000 up to \$100,000

-Small and simple Project fund: is for projects that can be completed in 6 months or less and seeking awards of \$15,000 or less.

-Neighborhood outreach and Development fund (including Small Sparks): Makes awards for projects that involve new people in the neighborhood organizations or activities.

## National Youth Gardening Grant Opportunities\*

### The Healthy Sprouts Awards

Gardener's Supply Company supports school and youth garden programs that teach about nutrition and the issue of hunger in the United States. To be eligible for the 2011 Healthy Sprouts Awards, your school or organization must plan to garden in 2012 with at least 15 children between the ages of 3 and 18. This year we will present awards to 30 schools or organizations. <http://www.kidsgardening.org/grants.asp>

### Seeds for Education Grant Program Invites Applications

Wild Ones is a not-for-profit organization dedicated to the use of natural landscaping with native plant species as an ecologically better alternative to traditional landscaping practices. Schools, nature centers, and other nonprofit and not-for-profit places of learning (including houses of worship) with a site available for this stewardship project may apply for an SFE grant. Cash awards range from \$100 to \$500 each. Complete grant program information as well as resources on natural landscaping are available at the Wild Ones Web site. <http://for-wild.org/seededuc.html>

### 2011 Youth Garden Grants

The National Gardening Association is happy to announce that The Home Depot has returned to sponsor the Youth Garden Grants for 2011. For this cycle, NGA awarded 100 grants. <http://www.kidsgardening.org/grants.asp>

### Mantis Awards

Mantis sponsors this award program in support of charitable and educational garden programs that enhance the quality of life in their host communities. NGA will select 25 gardens to receive a Mantis Tiller/Cultivator. We welcome applications from all



nonprofits; past winners include community gardens, schools, ministries, colleges, master gardening groups, and hospices. <http://www.kidsgardening.org/grants.asp>

Lowes Outdoor Classroom Grants Program

Awards grants up to \$2,000- \$5,000 to at least 100 schools. Lowe's will donate \$5 million to schools and school parent teacher groups at more than 1,000 different schools during the school year. <http://www.toolboxforeducation.com/>

America the Beautiful Fund

Grants of 100 to 1,000 seed packets are offered on the basis of availability and relative need. America the Beautiful Fund also offers *The Green Earth Guide* containing illustrated gardening instructions and ideas on involving the whole community in your project. For nutritional information, harvesting, storage and eating tips they offer *Gardening for Optimal Nutrition*. With an annual membership contribution you will also have access to technical assistance via their toll free member hotline, newsletter and announcements of special events and grants.

[http://america-the-beautiful.org/free\\_seeds/index.php](http://america-the-beautiful.org/free_seeds/index.php)

Bonnie Plants 3rd Grade Kids Cabbage Program

<http://www.bonnieplants.com/CabbageProgram/tabid/81/Default.aspx>

3rd grade classes can request "oversized" cabbage plants as part of the cabbage program. Participating students have the chance to win a \$1,000 scholarship.

Master Gardener's List of Grants

<http://www.mastergardenerssandiego.org/schools/grants.php>

American Community Gardening Association's List of Grants:

<http://www.communitygarden.org/rebeltomato/roots/fundraising.php>